### (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 12 August 2004 (12.08.2004)

**PCT** 

# (10) International Publication Number WO 2004/067214 A3

(51) International Patent Classification<sup>7</sup>: B24B 1/00

B26D 1/04,

(21) International Application Number:

PCT/US2004/001793

- (22) International Filing Date: 22 January 2004 (22.01.2004)
- (25) Filing Language:

English

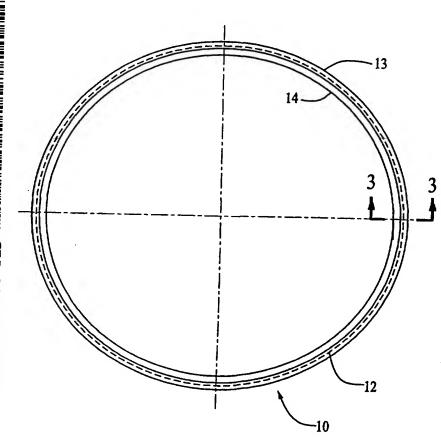
(26) Publication Language:

English

- (30) Priority Data: 60/442,391
- 24 January 2003 (24.01.2003) US
- (71) Applicant and
- (72) Inventor: COGSWELL, Jesse, G. [US/US]; 5403 Sunnyview Street, Torrance, CA 90505 (US).
- (74) Agent: THOMAS, M. Small; Birch, Stewart, Kolasch & Birch, LLP, 10940 Wilshire Blvd., 18th Floor, Los Angeles, CA 90024 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: BLADE RING SAW BLADE



(57) Abstract: A flat-sided annular blade for a blade ring saw for cutting hard material such as tile along straight paths and curved paths in which the workpiece is moved through the central portion of the In addition to the usual sintered abrasive diamond coating on the outer peripheral portion of the blade, the inner peripheral portion preferably is tapered to a curved inner edge and also is coated with an abrasive, preferably an electroplated diamond coating providing smoother sawing operation and a finishing action on the workpiece.



#### Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 7 October 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Rec'c PTO



# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/01793

A. CI	ASSIFICATION OF SUBJECT MATTER			
IPC(7)	: B26D 1/04; B24B 1/00			
US CL	: 83/835,837,656,447.2,663			
According	to International Patent Classification (IPC) or to both	national o	lessification and TDG	
B. FD	ELDS SEARCHED	immoniai c	assincation and IPC	
Minimum	dominantation accorded (all 1975)			
U.S.	documentation searched (classification system followe : 83/835,837,656,447.2,663; 451/20,57,58,69,70,71,1	d by class 125,178,24	ification symbols) \$1,244,411,412,541; 125/15,13.1	.14
Documenta	ation searched other than minimum documentation to t	ha	1	
	The second state and minimum documentation to t	ne extent t	nat such documents are included i	in the fields searched
Electronic East Search	data base consulted during the international search (na	me of data	a base and, where practicable, sea	rch terms used)
C. DO	CUMENTS CONSIDERED TO BE RELEVANT			
Category *				
Y	Which	appropria	te, of the relevant passages	Relevant to claim No.
	US 6,012,977 A (YOSHIKAWA et al.) 11 January 64 and column 3, lines 41-67.	/ 2000 (11	. 01. 2000), column 1, lines 10-	1-5, 7-10, and 12-16
Y	, mass 41 dy.			2, 3, 5, 9, 10, 14, 15,
Y	US 5,951,378 A (MILLER et al.) 14 September 19 and column 7, lines 14-67 and column 8, lines 1-4:	999 (14. 0	9. 1999), column 5, lines 29-67	and 16 2, 3, 5, 9, 10, 14, 15,
Y	US 6,354,909 B1 (BOUCHER et al.) 12 March 20 and column 2, lines 1-10.	o. 02 (12. 03	3. 2002), column 1, lines 62-67	and 16 2, 3, 5, 9, 10, 14, 15,
A	US 5,471,970 A (SAKARCAN) 5 December 1995 lines 9-50.	(05. 12. 1	1995), Figure 3 and column 4,	and 16 1-16
A	US 4,576,139 A (COGSWELL) 18 March 1986 (1	8. 03. 198	36), Figures 1 and 2.	1-16
A	US 5,351,444 A (STEERE, Jr.), 4 October 1994 (	04. 10. 19	94), Figures 1-3.	1-16
A	US 3,556,074 A (NELKE) 19 January 1971 (19. 0	1. 1971),	column 3, lines 20-52.	1-16
A	US 5,495,844 A (KITAJIMA et al.) 5 March 1996	(05. 03. 1	1996), column 2, lines 16-58.	1-16
·				
	r documents are listed in the continuation of Box C.		See patent family annex.	
+	Special categories of cited documents:	"T"	later document published after the inter	mational Giles data
"A" document of particular	at defining the general state of the art which is not considered to be ular relevance		date and not in conflict with the applicate principle or theory underlying the investigation.	Ition but cited to undecrease the
	oplication or patent published on or after the international filing date	"X"	document of particular relevance; the considered novel or cannot be considered when the document is a true of the considered to the consid	laimed invention cannot be ed to involve an inventive step
"L" documen establish specified)	t which may throw doubts on priority claim(s) or which is cited to the publication date of another citation or other special reason (as	"Y"	when the document is taken alone document of particular relevance; the c	laimed invention cannot be
	t referring to an oral disclosure, use, exhibition or other means		considered to involve an inventive step combined with one or more other such being obvious to a person skilled in the	when the document is
priority u	published prior to the international filing date but later than the ate claimed	<b>"&amp;"</b>	document member of the same patent fa	
	ctual completion of the international search	Date of	mailing of the international search	n report
4 August 20	04 (04.08.2004)	1 4	25\AUG 2004	1
Name and ma	niling address of the ISA/US	Ayrhori	zed officer/	
Mai	l Stop PCT, Attn: ISA/US unissioner for Patents	// /h	1	ĺ
P.O.	. Box 1450	Allah	DIOAD	
Alex	tandria, Virginia 22313-1450	Telepho	ne No. (703)308-1148	
	. (703) 305-3230	L X	_	
rm PCT/ISA	/210 (second sheet) (July 1998)			

PCT/US04/01793

## INTERNATIONAL SEARCH REPORT

ategory *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A, P	US 6,517,427 B1 (YOSHIKAWA et al.) 11 February 2003 (11. 02. 2003), column 2, lines 49-65 and col. 3, lines 1-55.	
. <b>A</b>	US 6,632,126 B1 (COGSWELL) 14 October 2003 (14. 10. 2003), Figures 1-3.	1-6
	-	
	•	
1		

Form PCT/ISA/210 (second sheet) (July 1998)